

# The Genus *Polycarpon* (Caryophyllaceae) in South America, with One New Species from the Norte Chico of Chile

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**ABSTRACT.** *Polycarpon coquimbense* Gereau & Marticorena (Caryophyllaceae) is described from central Chile, a key to and a brief conspectus of the South American species of *Polycarpon* are provided, and *P. australis* Britton is reduced to synonymy under *P. suffruticosum* Grisebach.

**RESUMEN.** Se presentan la descripción de *Polycarpon coquimbense* Gereau & Marticorena (Caryophyllaceae) proveniente de Chile central, una clave y una sinopsis de las especies sudamericanas de *Polycarpon*; y *P. australis* Britton está ubicado en la sinonimia de *P. suffruticosum* Grisebach.

*Polycarpon* Loefling ex L. (Caryophyllaceae, Paronychioideae, Polycarpeae; Pax & Hoffmann, 1934) is a genus of some 16 species of warm and warm-temperate regions of the world (Pedersen, 1987). The following combination of characters distinguishes *Polycarpon* from the other genera of Caryophyllaceae in South America (Reiche, 1896; Macbride, 1937; Añón, 1967; Pedersen, 1984, 1987): stipules present, interpetiolar, connate (though sometimes deciduous and detectable only as an interfoliar rim); flowers in cymes; sepals free or connate only at extreme base, usually keeled, rarely cucullate to subcucullate; petals present, entire to emarginate; style undivided at least in lower half; stigma 3-lobed to 3-parted; fruit a several-seeded capsule; and seeds not winged.

Macbride (1937) mistakenly treated *Drymaria engleriana* (Muschler) Baehni & J. F. Macbride as *Polycarpon englerianum* Muschler (Duke, 1961); *P. urbanianum* Muschler is here considered a probable synonym of *Drymaria engleriana*. Examination of an isotype of *Polycarpon australis* Britton (Morong 933, MO) has shown it to be synonymous with *P. suffruticosum* Grisebach. With these exclusions, four species of *Polycarpon* are known from South America. Three of these species are native, including the one newly described here. The four species may be distinguished as follows:

## KEY TO THE SPECIES OF *POLYCARPON* IN SOUTH AMERICA

- 1a. Root slender, delicate; base of stem herbaceous.
  - 2a. Stems with a line of pubescence on one side of apical internodes; leaves opposite or in verticils of 5–10, the blades linear to oblanceolate; sepals not winged on keel . . . . . 1. *P. apurense*
  - 2b. Stems glabrous; leaves opposite or in verticils of 3 or 4, the blades elliptic to obovate; sepals winged on keel . . . . . 3. *P. tetraphyllum*
- 1b. Root thick, fleshy or woody; base of stem a woody caudex.
  - 3a. Leaves strictly opposite, the blades broadly obovate to orbicular, 5–9 mm long, obtuse to rounded at base; cymes dense; sepals 1-nerved, keeled; stamens 5; capsule ca. 1.6 mm long; seeds 3–7 . . . . . 4. *P. coquimbense*
  - 3b. Leaves opposite or verticillate, the blades spatulate to oblong- or linear-lanceolate, 10–40 mm long, attenuate at base; cymes lax; sepals 3-nerved, subcucullate; stamens 3; capsule ca. 5 mm long; seeds 25–35 . . . . . 2. *P. suffruticosum*

## ENUMERATION OF THE SOUTH AMERICAN SPECIES

1. *Polycarpon apurense* Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 6: 40. 1823.

Synonymy in Pedersen (1987).

ARGENTINA (Corrientes) and URUGUAY (Pedersen, 1987). BRAZIL. **Goiás:** Irwin et al. 17682 (MO, NY). **Mato Grosso:** Harley & Souza 11101 (K, MO). **Pará:** Berg & Henderson 649 (MO, NY). **São Paulo:** Eiten & Campos 3473 (MO). VENEZUELA. **Amazonas:** Carnevali et al. 1503 (MO, VEN). **Apure:** Davidse & González 12877 (MO).

2. *Polycarpon suffruticosum* Grisebach, Abh. Königl. Ges. Wiss. Göttingen 19: 29. 1874.

*Polycarpon australis* Britton, Ann. New York Acad. Sci. 7: 53. 1892 [sub "*Polycarpa*"]. Syn. nov. TYPE: Paraguay. Pilcomayo River, 1888–1890, Morong 933 (holotype, NY not seen; isotype, MO).

Further synonymy in Pedersen (1987).



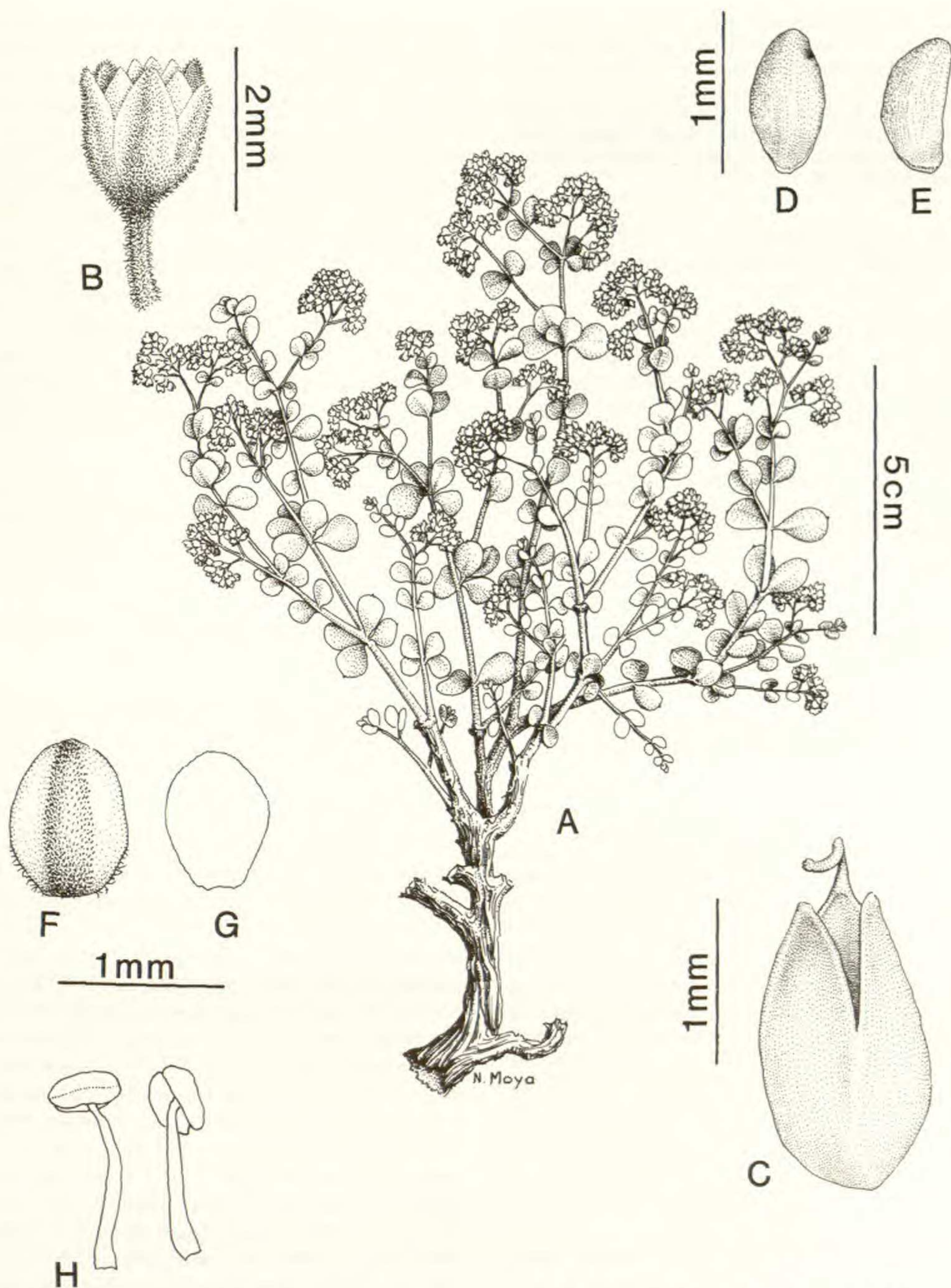


Figure 1. *Polycarpon coquimbense* Gereau & Marticorena. —A. Flowering plant. —B. Open flower. —C. Dehiscing capsule. —D. Seed, dorsal view. —E. Seed, lateral view. —F. Sepal, dorsal view. —G. Petal, dorsal view. —H. Stamens, lateral and ventral views. Illustrations based on: A-G, Ricardi et al. 1135; H, Ricardi et al. 1802.



ARGENTINA. **Buenos Aires:** Añón (1967). **Córdoba, Jujuy, Tucumán, Santa Fe:** Martínez-Crovetto (1967). **Entre Ríos:** Pedersen (1987). **Chaco:** Jorgensen 2366 (MO). **Corrientes:** Krapovickas et al. 27409 (CTES, MO). **Formosa:** Morel 4593 (LIL, MO). **Salta:** Rosa 264 (MO). PARAGUAY. **Gran Chaco:** Hassler 2481 (MO). **Presidente Hayes:** Schinini & Palacios 25831 (CTES, MO).

3. *Polycarpon tetraphyllum* (L.) L., Syst. Nat. ed. 10. 881. 1759. *Mollugo tetraphylla* L., Sp. Pl. 1: 89. 1753.

Native to the Mediterranean region of Eurasia and North Africa; introduced in southern Brazil, Uruguay, coastal Argentina (Pedersen, 1984), and central provinces of Chile (Reiche, 1896). Also collected in:

CHILE. **Juan Fernández Islands:** Meyer 9373 (MO, NA). PERU. **Lima:** Valencia & Cano 1718 (MO). VENEZUELA. **Distrito Federal:** Croat 21820 (MO).

4. *Polycarpon coquimbense* Gereau & Marticorena, sp. nov. TYPE: Chile. Prov. Coquimbo: Dpto. Elqui, Camino Internacional a San Juan [Argentina], Puente Las Terneras, 22 km al interior de Guanta, 1650 m, 29°59'S, 70°14'W, 7.I.1967, Ricardi, Marticorena & Matthei 1802 (holotype, CONC; isotype, OS). Figure 1.

Fruticulus humilis, ramis basalibus lignosis tortis, ramulis floriferis sublignosis, usque ad 15 cm longis. Folia opposita; stipulis caducis (nobis non observatis), sed foliorum basibus crista stipulari manifeste unitis; petiolis 0.4–1.0 mm longis, crassiusculis; laminis 5–9 mm longis  $\times$  4–9 mm latis, late obovatis ad orbiculatis, apice rotundatis, basim versus obtusis ad rotundatis, coriaceis, nervo unico longitudinali vix manifesto. Cymae densae, terminales, dichotomae; bracteis scariosis ovatis 0.6–0.9 mm longis. Flores subsessiles; sepalis 5, 1.9–2.4 mm longis, ovato-orbiculatis, obtusis, uninerviis, nervo viridibus carinatis; petalis perigynis, 1.3–1.5 mm longis, oblongis, obtusis, integris; staminibus 5, perigynis, filamentis 1.0–1.1 mm longis, antheris ca. 0.5 mm longis; ovario trigono-ovoido ca. 0.8 mm longo  $\times$  1.0 mm lato, stylo ca. 0.7 mm longo, indiviso, stigmatibus 3 liberis. Capsula trigono-ovoida ca. 1.6 mm longa  $\times$  1.1 mm lata; seminibus 3–7, 0.90–1.05 mm longis  $\times$  0.35–0.40 mm latis, erectis, lunato-fusiformibus, superficie lucente, fere laevi (minute celluloso-papillosa).

Shrublet, very low, the basal branches woody, twisted, the flowering branchlets subligneous, to 15 cm long, yellowish to olive-green, longitudinally sulcate, glabrous to minutely pulverulent with very short fasciculate trichomes. Leaves opposite, sometimes with an axillary pair of smaller leaves; stipules caducous (none observed), but leaf bases conspicuously united by a stipular ridge; petioles 0.4–1.0 mm long, rather stout, adaxially canaliculate; blades 5–9  $\times$  4–9 mm, broadly obovate to orbicular,

rounded at apex, obtuse to rounded at base, with a single, inconspicuous longitudinal nerve, tomentulose above and beneath when young with branched fasciculate trichomes. Cymes dense, terminal, dichotomous, 4–6-branched, the basal internodes 4–10 mm long, the upper very short; bracts scarious, ovate, 0.6–0.9 mm long; branches tomentulose as in young leaves. Flowers subsessile; sepals 5, 1.9–2.4 mm long, ovate-orbicular, obtuse, 1-nerved, green and keeled on nerve, broadly hyaline on margins, united for ca. 0.5 mm at base and forming an hypogynous disk, tomentulose externally as in branches of cyme; petals perigynous, 1.3–1.5 mm long, oblong, obtuse, entire; stamens 5, perigynous, the filaments 1.0–1.1 mm long, the anthers ca. 0.5 mm long; ovary trigonous-ovoid, ca. 0.8 mm  $\times$  1.0 mm, unilocular, with 9 ovules inserted at base of central column; style ca. 0.7 mm long, contiguous with column of ovary, undivided, with 3 free stigmas. Capsule trigonous-ovoid, ca. 1.6  $\times$  1.1 mm; seeds 3–7, 0.90–1.05  $\times$  0.35–0.40 mm, erect, lunate-fusiform; embryo dorsal, curved, brown; perisperm ventral, yellowish brown; seed surface shining, nearly smooth (minutely cellular-papillose).

*Polycarpon coquimbense* resembles *P. suffruticosum* in its habit; the differences are noted in the key above. In this respect it also resembles *P. polycarpoides* (Bivona-Bernardi) Zodda ex Jahandiez & Maire subsp. *herniarioides* (Ball) Maire & Weiller of dry montane habitats in northwestern Africa and the southeastern Iberian Peninsula (Amich & Pedrol, 1990), and *P. sauvagei* Mathez of the Central Plateau of Morocco (Mathez, 1983). *Polycarpon sauvagei* is readily distinguished by its sessile, narrowly elliptic leaves measuring only 2.2–5.0  $\times$  0.5–1.5 mm and its large flowers (sepals 3.5–4.0 mm long, petals ca. 3.5 mm long). *Polycarpon polycarpoides* subsp. *herniarioides* is superficially quite similar to *P. coquimbense*, but the former taxon may be distinguished by the following characters: leaf blades 3–7  $\times$  1–2.5 mm, oval to obovate, acute at apex; sepals 1.5–2.0 mm long, only slightly cucullate (not keeled); seeds 0.6–0.8 mm long, nearly white. [Note: Amich & Pedrol (1990) mistakenly ascribed the combination *Polycarpon polycarpoides* to Fiori (Nuovo Giorn. Bot. Ital., nov. ser. 15: 347. 1908), who specifically rejected the name as “una logomachia senza senso comune.” Maire (1963) cited its authorship as Zodda ex Fiori (Nuov. Fl. Italia 1: 451. 1923), but Fiori there used *polycarpoides* only as an unranked infraspecific epithet under *P. peploides* DC. Jahandiez & Maire (Cat. Pl. Maroc 2: 212. 1932) validly transferred the specific epithet from *Hagea polycarpoides*



Bivona-Bernardi to *Polycarpon*, crediting Zodda with the combination. The correct author citation is therefore *P. polycarpoides* (Bivona-Bernardi) Zodda ex Jahandiez & Maire.]

**Paratypes.** CHILE. **Prov. Coquimbo:** Guanta, entre Rivadavia y Guanta, 1215 m, 29°50'S, 70°25'W, 4.II.1963, Ricardi, Marticorena & Matthei 677 (CONC, MO); camino de La Serena a Baños del Toro, 23 km al interior de Guanta, 1650 m, 29°59'S, 70°15'W, 27.X.1964, Ricardi, Marticorena & Matthei 1135 (CONC, MO).

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